Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Amended)   A method for quantification of strain imaging comprising ~~the steps of~~:

(a) performing a motion analysis on at least two selected regions of interest (ROI) before and after tissue compression;

(b) providing a strain estimate for each of ~~the~~ said at least two ROIs based upon said motion analysis; and

(c) comparing ~~the~~ said strain estimates of each of ~~the~~ said at least two ROIs to quantify ~~the~~ strain for the at least two ROIs.

2. (Amended)   The method of claim 1 wherein ~~the~~ said performing ~~step (a)~~ comprises ~~the steps of~~:

(a1)   generating a plurality of blocks for each of ~~the~~ said at least two ROIs; and

(a2)·   utilizing a block matching technique to perform a motion analysis on each of ~~the~~ said at least two ROIs.

3. (Amended)   The method of claim 2 wherein each of ~~the~~ said plurality of blocks touch a boundary of ~~the~~ said at least two ROIs.

4. (Amended)   The method of claim 1 wherein ~~the~~ said providing ~~step (206)~~ (b) is performed in accordance with ~~the~~ equation:

$$ST = \left\| \sum_{i=i1}^{i2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

where ST is ~~the~~ strain estimate; and where a_i and b_i are the displacement components for two blocks, which cross over ~~the~~ a boundary of a specific ROI, in ~~the~~ a direction of i-th A-line, d_i is a distance between ~~the~~ said two blocks, and i_1 and i_2 are indices along an A-line on a B-mode image covering ~~the~~ said ROI.

5. (Amended)   A method for quantification of strain imaging comprising ~~the steps of~~:
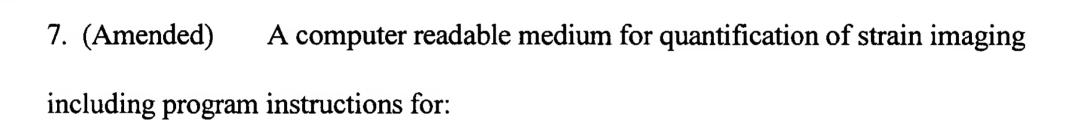
(a) performing ~~(206)~~ a motion analysis on a plurality of selected regions of interest (ROIs) ~~(302 and 304~~; ~~the~~ said performing ~~step (a)~~ further comprising ~~comprises the steps of~~:
(a1) generating a plurality of blocks ~~(150)~~ for each of ~~the~~ at least two ROIs ~~(302 and 304)~~; and (a2) utilizing a block matching technique to perform a motion analysis on each of ~~the~~ said plurality of ROIs ~~(302 and 304)~~, wherein each of ~~the~~ said plurality of blocks ~~(150)~~ touch a boundary of ~~the~~ said at least two ROIs ~~(302 and 304)~~;

(b) providing a strain estimate for each of ~~the~~ said plurality of ROIs ~~(302 and 304~~ based upon said motion analysis; and

(c) comparing ~~(208)~~ ~~the~~ said strain estimates of each of ~~the~~ said plurality of ROIs to quantify ~~the~~ said strain for ~~the~~ said at least two ROIs ~~(302 and 304)~~.

6. (Amended)   The method of claim 5 where ~~the~~ said strain estimate is performed in accordance with ~~the~~ equation:

$$ST = \left\| \sum_{i=i1}^{i2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

where ST is ~~the~~ strain estimate; and where a_i and b_i are ~~the~~ displacement components for two blocks, which cross over ~~the~~ a boundary of a specific ROI, in ~~the~~ a direction of i-th A-line~~.~~ , d_i is a distance between ~~the~~ said two blocks, and i_1 and i_2 are indices along ~~the~~ an A-line on a B-mode image covering that specific ROI.

7. (Amended)   A computer readable medium for quantification of strain imaging including program instructions for:

(a) performing ~~(204)~~ a motion analysis on at least two selected regions of interest (ROI) before and after tissue compression;

(b) providing ~~(206)~~ a strain estimate for each of ~~the~~ said at least two ROIs based upon said motion analysis; and

(c) comparing ~~(208) the~~ strain estimates of each of ~~the~~ said at least two ROIs to quantify the strain for ~~the~~ said at least two ROIs.

8. (Amended)   The computer readable medium of claim 7 wherein ~~the~~ said performing said motion analysis ~~(206) step (a)~~ comprises ~~the steps of~~:

(a1)   generating a plurality of blocks ~~(150)~~ for each of ~~the~~ said at least two ROIs ~~(302 and 304)~~; and

(a2) utilizing a block matching technique to perform a motion analysis on each of ~~the~~ said at least two ROIs ~~(302 and 304)~~.

9. (Amended) The computer readable medium of claim 7 wherein each of ~~the~~ said plurality of blocks touch a boundary of ~~the~~ said at least two ROIs ~~(302 and 304)~~.

10. (Amended) The computer readable medium of claim 7 wherein said ~~the~~ providing said strain estimate ~~step (206)~~ (b) is performed in accordance with ~~the~~ equation:

$$ST = \left\| \sum_{i=i1}^{i2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

where ST is ~~the~~ strain estimate; and where a_i and b_i are ~~the~~ displacement components for two blocks, which cross over ~~the~~ a boundary of a specific ROI, in ~~the~~ a direction of i-th A-line, d_i is a distance between ~~the~~ said two blocks, and i_1 and i_2 are indices along an A-line on a B-mode image covering that specific ROI.

11. (Amended) A computer readable medium for quantification of strain imaging having program instructions for:

(a) performing ~~(206)~~ a motion analysis on a plurality of selected regions of interest (ROIs) ~~(302 and 304)~~; ~~the~~ said performing ~~step (a)~~ further comprising ~~comprises the steps of~~: (a1) generating a plurality of blocks ~~(150)~~ for each of ~~the~~ said plurality of ROIs ~~(302 and 304)~~;

(a2)   utilizing a block matching technique to perform a motion analysis on each of ~~the~~ said plurality of ROIs ~~(302 and 304)~~, wherein each of ~~the~~ said plurality of blocks touch a boundary of ~~the~~ said plurality of ROIs ~~(302 and 304)~~ ;

(b) providing ~~(206)~~ a strain estimate for each of ~~the~~ said plurality of ROIs ~~(302 and 304)~~ based upon said motion analysis; and

(c) comparing ~~(208) the~~ strain estimates of each of ~~the~~ said plurality of ROIs to quantify ~~the~~ said strain for ~~the~~ at least two ROIs ~~(302 and 304)~~.

12. (Amended)   The computer readable medium of claim 11 ~~where~~ wherein ~~the~~ strain estimate is performed in accordance with ~~the~~ equation:

$$ST = \left\| \sum_{i=i1}^{i2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

where ST is ~~the~~ strain estimate; and where a_i and b_i ~~are~~ the displacement components for two blocks, which cross over ~~the~~ a boundary of a specific ROI, in ~~the~~ a direction of i-th A-line. d_i is a distance between ~~the~~ said two blocks, and i_1 and i_2 are indices along an A-line on a B-mode image covering that specific ROI.

13. (New)   A method for quantification of strain imaging comprising:

(a) performing a motion analysis on at least two selected regions of interest (ROI) before and after tissue compression;

(b) providing a strain estimate for each of said at least two ROIs said strain estimate being performed in accordance with equation:

$$ST = \left\| \sum_{i=i1}^{i2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

wherein ST is strain estimate; and wherein a_i and b_i are displacement components for two blocks, which cross over a boundary of a specific ROI, in a direction of i-th A-line, d_i is a distance between said two blocks, and i_1 and i_2 are indices along an A-line on a B-mode image covering the ROI.

14. (New)   A method for quantification of strain imaging comprising:

(a) performing a motion analysis on a plurality of selected regions of interest (ROIs); said performing further comprising: (a1) generating a plurality of blocks for each of at least two ROIs; and (a2) utilizing a block matching technique to perform a motion analysis on each of said plurality of ROIs, wherein each of said plurality of blocks touch a boundary of said at least two ROIs;

(b) providing a strain estimate for each of said plurality of ROIs, said strain estimate performed in accordance with equation:

$$ST = \left\| \sum_{i=i1}^{i2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

wherein ST is strain estimate; and wherein a_i and b_i are displacement components for two blocks, which cross over a boundary of a specific ROI, in a direction of i-th A-line, d_i is a

distance between two blocks, and i_1 and i_2 are indices along an A-line on a B-mode image covering that specific ROI; and

(c) comparing strain estimates of each of said plurality of ROIs to quantify the strain for said at least two ROIs.

15.   (New) A computer readable medium for quantification of strain imaging including program instructions to perform a method comprising:

(a) performing a motion analysis on at least two selected regions of interest (ROI) before and after tissue compression;

(b) providing a strain estimate for each of said at least two ROIs, said strain estimate performed in accordance with equation:

$$ST = \left\| \sum_{i=i1}^{i2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

wherein ST is strain estimate; and wherein a_i and b_i are displacement components for two blocks, which cross over a boundary of a specific ROI, in a direction of i-th A-line, d_i is a distance between said two blocks, and i_1 and i_2 are indices along an A-line on a B-mode image covering that specific ROI; and

(c) comparing strain estimates of each of said at least two ROIs to quantify the strain for at least two ROIs.

16.   (New) A computer readable medium for quantification of strain imaging having program instructions for:

(a) performing a motion analysis on a plurality of selected regions of interest (ROIs); said performing further comprising: (a1) generating a plurality of blocks for each of said plurality of ROIs;

(a2) utilizing a block matching technique to perform a motion analysis on each of said plurality of ROIs, wherein each of said plurality of blocks touch a boundary of said plurality of ROIs;

(b) providing a strain estimate for each of said plurality of ROIs, said strain estimate performed in accordance with equation:

$$ST = \left\| \sum_{i=i1}^{i2} \frac{(a_i - b_i)}{d_i} \right\| x100\%$$

wherein ST is strain estimate; and wherein a_i and b_i are displacement components for two blocks, which cross over a boundary of a specific ROI, in a direction of i-th A-line, d_i is a distance between said two blocks, and i_1 and i_2 are indices along an A-line on a B-mode image covering that specific ROI; and

(c) comparing strain estimates of each of said plurality of ROIs to quantify strain for at least two ROIs.